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November 8, 2010

Water Docket
Environmental Protection Agency
Mail Code: 28221T
1200 Pennsylvania Ave., NW
Washington, DC 20460

Subject: Comments on Draft Chesapeake Bay TMDL for Nutrients and Sediment
Docket ID No. EPA-R03-OW-2010-0736

To whom it may concern:

Georgia-Pacific LLC (GP) appreciates the opportunity to submit comments on the Environmental Protection Agency's (EPA's) proposed Chesapeake Bay Total Maximum Daily Load (TMDL) for Nutrients and Sediments. Georgia-Pacific is one of the world's leading manufacturers of paper, packaging, pulp, tissue, building products, food service products and related chemicals. We have over 300 manufacturing facilities across North America, South America and Europe, ranging from large facilities, such as pulp, paper and tissue operations; to moderately sized facilities, such as gypsum plants, chemical plants, and building products complexes; to small facilities, such as Dixie® product plants and box plants. Georgia-Pacific has several operating facilities in Virginia including plywood, oriented strand board, corrugated container and gypsum facilities, chip mills, woodyards, and a pulp and paper mill, located at Big Island, Virginia. These facilities typically possess National Pollutant Discharge Elimination System (NPDES) permits issued by the Virginia Department of Environmental Quality (VA DEQ) and will be directly affected by decisions that the EPA makes regarding the Chesapeake Bay TMDL.

Georgia-Pacific is a member of the American Forest and Paper Association (AF&PA), the national trade association of the forest, paper, and wood products industry, which also participates in the Federal Water Quality Coalition (FWQC). GP is also a member of the Virginia Manufacturers Association (VMA). Georgia-Pacific fully supports, and as a member, incorporates the comments submitted by the AF&PA, FWQC and the VMA as part of GP's comments. Specifically, based on those comments and the ones set forth below, GP respectfully requests that EPA withdraw the draft TMDL and support the efforts of the State of Virginia and other impacted states to continue to improve water quality.

In addition, GP has the following comments that we wish to emphasize which are related to the specific and significant impacts the draft TMDL would have on our operations in the State of Virginia, including the Big Island pulp and paper mill, and on our operations in adjoining states that are located on streams that enter the Chesapeake Bay.

Mechanistic Modeling of Impairment Decisions

GP supports the development of mechanistic, science-based water quality models for assessing potential impairments to surface waters. The use of water quality models has for years provided the most proven means for developing TMDLs in accordance with the goals of the Clean Water Act. The draft Chesapeake Bay TMDL represents the most complex TMDL ever attempted, and EPA's decision to utilize mechanistic modeling for improving water quality in the Chesapeake Bay is appropriate. However, with any mathematical-based decision tool, meaningful results can only be obtained using accurate data input, proper review of all variables, model calibration, and an iterative adjustment cycle to refine the modeling. Unfortunately, it appears there are several problems with the modeling, and that EPA is rushing to issue a final TMDL by the end of December 2010. There are errors in input data, such as the inaccurate location of 130 "non significant" dischargers, and apparent problems with the Total Suspended Solids (TSS) algorithm, which does not appear to have appropriate sensitivity for significant adjustments in effluent TSS levels (there is little change in effect for EPA's level of 5 mg/L vs. VA DEQ's use of 30 mg/L of TSS). The public comment period closes on November 8, only 45 days after the most complex TMDL in the history of the TMDL program was proposed. The final TMDL will be issued only 53 days following the close of the comment period. The public comment period is entirely too short for a thorough public review, evaluation and comment on over two thousand pages of a draft technical document such as this TMDL and associated appendices. Additionally, EPA will not have adequate time to seriously consider the many technical and substantive comments that will be made during this comment period, and then integrate such comments into the final TMDL. While we think it most appropriate to withdraw the draft TMDL, at a minimum, we request that EPA delay the finalization of this most complex TMDL by at least six months in order to adequately review and consider comments, evaluate changes, work with the states to adjust the model and incorporate state-specific concerns. Otherwise, the use of the model, without such adjustments, will have significant and potentially disastrous cost impacts and consequences for American businesses in the Chesapeake Bay watershed that will either be compelled to install controls that are not completely necessary or justified, or be forced to relocate businesses or close.

Support for Virginia's Watershed Implementation Plan and the James River Approach

We support the approach that the VA DEQ proposes in its Watershed Implementation Plan (WIP) for the James River due to its unique qualities and chlorophyll criteria. This approach proposed in the WIP uses, as a foundation, the successful point and non point source control plans already developed by localities and municipalities in the basin. The significant reduction of nutrient allocations proposed by EPA for the James River is unfounded and fails to recognize or consider the significant progress to-date and future nutrient reductions plans that have been made in good faith in the basin. We believe the adaptive management approach proposed by VA DEQ for the James River to achieve the 2017 goals is appropriate and that EPA should approve this portion of VA DEQ's WIP as originally submitted. To utilize the allocations that EPA has proposed is contrary to the pursuit and use of sound science upon which EPA professes to base its approach to protecting the environment.

Sediment Control

EPA's Chesapeake Bay Program Office website states that the sources of sediment to the Bay are agriculture (60%), natural sources (21%), and urban/suburban runoff and in-stream sediment (19%). Furthermore, Section 4.5.2 of the proposed TMDL states that the estimated 2009 TSS waste loads from industrial facilities to the Chesapeake Bay is only 0.5% of the total load. In

contrast to EPA's own data, EPA's proposed control of point sources for TSS under the backstop measures in the draft TMDL to address the sediment impairment in the Chesapeake Bay is unfounded and is not based on sound and reasoned science to resolve the impairment. The sediment of concern is primarily inorganic in nature, and is associated with erosion from upland land surfaces and erosion of stream corridors (US Geological Survey, *A Summary Report of Sediment Processes in Chesapeake Bay and Watershed*, 2003). Industrial effluent sources of TSS originating from biological treatment, such as from GP's Big Island Mill, primarily consist of organic solids. The organic content of these solids is typically between 70 to 90 percent and a large part of the organic content is capable of being biologically degraded. The amount transported as sediment would thus be reduced considerably versus the total amount of TSS originally present. The National Council for Air and Stream Improvement (NCASI) has shown that any such solids originating from a pulp and paper mill are organic in nature and have a very low available nutrient component (Dr. William E. Thacker, *A Review of the Characteristics and Fate of Suspended Solids Discharged with Biologically Treated Effluents from Pulp and Paper Mills*, NCASI, October 2010 – note: see VMA comments for reference).

The ability of a wastewater treatment plant to meet extremely low effluent TSS limits is dependent on the type of wastewater treated. EPA originally established technology-based guidelines recognizing the unique aspects of various industry types. EPA's proposed TMDL does not make such distinctions, instead applying an across-the-board allocation based on a treatment technology achieving 5 mg/l for municipal effluent. The filtration technology available would not be capable of achieving a TSS concentration of 5 mg/L in many industrial settings due to the nature of the TSS generated. Again, a more site-specific determination of appropriate limitations, and an analysis of the need for such limitations, is necessary but missing from EPA's draft TMDL.

Technological Limitations and Impacts of Reducing Nitrogen and Phosphorus Levels in Pulp and Paper Mill Effluents

GP operates its wastewater treatment facilities as required by 40 CFR 122.41(e) which is a required component of all NPDES permits, including those in Virginia:

(e) Proper operation and maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

Since pulp and paper mill wastewater is typically nutrient-deficient, mills must add small amounts of nitrogen and phosphorus to achieve proper biological degradation of organic wastes. These additions of nitrogen and phosphorus to the wastewater treatment systems cannot simply be turned off: they are necessary for compliance with 40 CFR 122.41(e) and, without the addition of these nutrients, other effluent parameters, such as 5-day biochemical oxygen demand (BOD₅) and TSS would increase dramatically since biological degradation would be impacted. Additionally, the relative amounts of nutrients being added are already optimized since adding excess nutrients would be unnecessary and expensive. Thus, there is not an option for GP to simply reduce or eliminate nutrient additions to its treatment system without risking noncompliance with effluent five-day biochemical oxygen demand (BOD₅) and TSS limits.

We are unaware of any pulp and paper mill treatment systems that include nutrient controls for both phosphorus and nitrogen. EPA considers the limit of technology treatment levels for municipal wastewater treatment plants for biological nutrient removal to be 3 mg/l for total nitrogen and 0.1 mg/l for total phosphorus (draft TMDL, page 8-17, USEPA 2010). However, this technology has not been successfully applied to pulp and paper mill effluents. Thus, there is not a straightforward design example that demonstrates continued compliance with very low nutrient levels, such as those that may be unreasonably required by EPA's backstop levels.

GP has prepared preliminary cost estimates for the Big Island paper mill in meeting reduced nutrient levels as described in the VA DEQ WIP. The current estimated costs for the upgraded treatment facilities are estimated as approximately \$14 million. However, these costs were developed prior to the moderate backstop levels proposed by EPA for the Virginia WIP. We do not believe that existing nutrient removal technologies can achieve EPA's proposed backstop levels for a pulp and paper mill effluent for this type pulp and paper mill.

The implementation of this wastewater treatment system upgrade option would present the following additional complications and potential environmental impacts:

- Increased energy consumption.
- A corresponding increase in the generation of greenhouse gases.
- Increased sludge generation, resulting in increased landfill costs and the need to permit and install new disposal areas.
- Increased chemical consumption for precipitation processes.

GP is committed to protecting the Chesapeake Bay. At our Big Island Mill, GP has, over the past ten years, reduced nutrient and TSS discharges. Some of the efforts and projects that GP has instituted include:

- A dredging program to remove solids from the polishing pond and limited re-entrainment of solids and feedback of nitrogen and phosphorus into the water column.
- The addition of a polymer system to the secondary clarifier to reduce the discharge of TSS to the polishing pond, and reduced final effluent TSS levels.
- The use of COD monitoring for influent loading information and nutrient feed control.
- A change to a nutrient product that is comprised of UAN (urea ammonium nitrate) and ammonium polyphosphate that delivers higher available nitrogen per unit of feed and allows for lower phosphorus usage. Since our system requires minimal phosphorus addition, this has helped reduce residual phosphorus considerably.
- The addition of oxygen to the primary clarifier for more efficient primary treatment and increased removal of TSS.
- Conducted a study that demonstrated operation at a lower phosphorus level in the system while supporting efficient treatment. This has allowed for a reduction in nutrient usage in the activated sludge treatment system and subsequently reduced effluent phosphorus levels.

Additionally, GP has participated in the Virginia Nutrient Credit Exchange program since 2007 and offered nutrient credits (primarily phosphorus) on the exchange for sale. We believe the Virginia Nutrient Credit Exchange program represents a model for other states to follow and we applaud the Virginia DEQ in its forward-thinking actions to reduce nutrients from both point and

non-point sources. We believe this is a demonstrated working program and a vital part of Virginia's watershed implementation plan.

We appreciate the opportunity to submit comments on the above proposed amendments. If you have any questions regarding our comments, please contact Mayes Starke at (423) 653-0084, or me at (404) 652-4776.

Sincerely,

A handwritten signature in cursive script that reads "Traylor Champion".

Traylor Champion
Vice President – Environmental Affairs
Georgia-Pacific Corporation, LLC